Department of the Interior
Occupational Health and Safety Guidance

Employee Health and Safety for Avian Influenza Surveillance and Control Activities in Wild Bird Populations:

This document provides interim guidance for protecting Department of the Interior (DOI) employees involved in surveillance activities and/or in response to an outbreak of highly pathogenic avian influenza (HPAI) among wildlife in the United States. H5N1 is a subtype of avian influenza virus that is very pathogenic in birds. The H5N1 designation describes the type of protein coatings on the viral particles. Other avian influenza viruses are associated with human pathogenicity such as the H7 subtype. This document addresses precautions for any HPAI that may be a risk to humans. Activities that could result in exposure to birds or wildlife infected with HPAI include trapping and handling live birds, euthanasia, carcass collection and disposal, and cleaning and disinfection of equipment, vehicles, and personal protective equipment (PPE). The purpose of this interim guidance is to clarify and consolidate what is currently in the various avian influenza plans concerning employee health and safety issues.

The safety and health precautions, including PPE, work practices, and personal hygiene practices, depend on the circumstances and the nature of the task being performed. However, the table below describes general activities and the required protective measures to minimize exposure. This table does not attempt to cover all tasks that may be assigned to DOI personnel. High exposure tasks not anticipated in the following table should be evaluated using risk assessment methodology in consultation with safety and health professionals.

These precautions are based on protecting individuals involved in the response to an outbreak of HPAI in wild birds from illness and the risk of viral reassortment (i.e., mixing of genes from human and avian viruses). The epidemiology of the HPAI virus in wild birds is not fully known, but there are some reports of birds being infected without showing obvious signs of disease. Because of this, precautions should be taken even for birds appearing healthy when the HPAI virus is suspected to exist within a bird population or a specific geographic area.

The risk and consequent recommendations are dependent on the suspected presence of the HPAI virus in the wildlife being handled. The following guidance on determining when HPAI is suspected when handling birds has been developed by wildlife disease experts.

- If the HPAI virus has not been detected in birds in North America and we have no reason to suspect that birds being handled would be infected, then normal protective measures will suffice as defined in the table below.

- When handling apparently healthy live birds, or sick or dead birds, within 6.2 miles (10km) of a site where the HPAI virus has been definitively diagnosed or is

suspected in association with a bird mortality event, additional protective measures should be taken. (This 6.2 mile (10km) radius area where additional PPE should be worn mirrors the "infected zone" that will be established by USDA as a containment measure in response to an occurrence of HPAI in birds and the "surveillance zone" applied by the European Union countries when managing HPAI outbreaks in wild birds. Either may be adjusted outward as ecological, epidemiological, or administrative circumstances warrant.)

- When handling apparently healthy live birds outside of any designated "infected zone," normal protective measures are adequate.

- If the HPAI virus has been definitively diagnosed in wild birds within a migratory flyway, personnel handling sick or dead birds when responding to other mortality events within the flyway should exercise appropriate precaution and wear protective equipment outlined in the table below.

Designated protective measures should be applied for at least 30 days after the date of the last detection of HPAI in wild birds.

Workers should receive the current season's influenza vaccine in accordance with the recommendations of the Advisory Committee on Immunization Practices available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5510a1.htm. This will reduce the possibility of dual infection with avian and human influenza viruses. There is a small possibility that dual infection could occur and result in viral reassortment.

In the absence of HPAI-infected wildlife, prophylactic use of influenza antiviral medications is not recommended for work that involves handling wild birds. Field staff who develop influenza symptoms within 10 days after working with wild birds should have prompt telephone access to a health care provider and access to medical care within 48 hours after symptom onset. HPAI laboratory testing should be available if the presence of HPAI is known or suspected within the work area.

The following table specifies the minimum personal protective equipment to be used for each activity; however, other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, waders, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. N-95 or better respirators should be used for tasks that generate airborne particulates. This document reflects the greater risk of exposure when handling live birds which may create airborne particles and greater chance for fecal contamination, or when responding to a mortality event when there is reason to suspect the HPAI virus as the disease agent. Proper work practices and personal hygiene are the primary protective measures for handling individual dead birds when airborne particles are not generated or contamination of clothing is not an issue and the presence of the HPAI virus is not suspected.

This interim guidance on personal protective equipment will continue to be reevaluated as more information is available and as the characteristics of the pathogens are better defined.

ACTIVITY	CONDITIONS	ACTIVITY RISK	PPE	WORK PRACTICE
1) Handling apparently healthy birds.	HPAI not known or suspected within 6.2 miles[1] of the work site.	No apparent risk of HPAI infection, because virus not known or suspected within work area.	♦Impermeable (polyvinyl chloride (pvc), or nitrile) gloves ♦Goggles or safety glasses. (PPE for normal bird handling operations may include coveralls or lab coats)	Follow PPE and work practices for normal operations. 1) If working indoors, work in well-ventilated areas. 2) When working outdoors, work upwind of animals, to the extent practical, to decrease the risk of inhaling airborne particulate matter such as dust, feathers, or dander. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. If gloves are torn or damaged: 1) Immediately but carefully remove them. 2) Thoroughly wash hands with soap and water (or an alcohol-based hand gel when soap and water are not available.) 3) Don a fresh pair of gloves after hands are dry.
2) Investigating, handling or disposing of multiple sick or dead birds associated with a wild bird mortality event.	HPAI not known or suspected in the flyway within the previous 30 days.	No apparent risk of HPAI infection, because virus not known or suspected within work area. Possible infection with other disease agents.	♦Impermeable (pvc or nitrile) gloves and protection from claw wounds ♦Goggles ♦NIOSH-approved particulate respirator, N-95 or better[2,3] ♦Disposable gowns or coveralls or cleanable waders/raingear. ♦Rubber boots or boot covers	Use accepted precautions for working with any avian disease to protect employee and for disease containment to prevent or control transmission to other wildlife. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. See torn or damaged gloves under activity 1. Remove PPE in the following order: 1) Carefully remove coveralls and boot covers and discard as contaminated material if disposable. 2) Disinfect rubber boots. 3) Remove gloves and immediately wash hands thoroughly with soap and water (or an alcohol-based hand gel when soap and water are not available). 4) Remove eye protection and place in designated receptacle for subsequent cleaning and disinfection. 5) Remove N-95 disposable respirator and discard.

				6) Immediately after all PPE has been removed, wash hands thoroughly a second time.
3) Collecting individual dead birds, i.e., not in association with a mortality event of multiple wild birds.	Any condition.	Low risk of HPAI infection, because aerosolization of contaminated particles is unlikely.	♦Impermeable (pvc or nitrile) gloves. ♦Eye protection.	Bag birds using technique to minimize contact and generation of airborne contaminated particulate material. Dispose of bag and gloves appropriately. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. Thoroughly wash hands after removing gloves. See torn or damaged gloves under activity 1.
Activity	**Conditions**	**Activity Risk**	**PPE**	**Work Practice**
4) Handling apparently healthy birds.	Definitive diagnosis of HPAI, or presumptive diagnosis in association with bird mortality[4], within 6.2[1] miles of work area.	Increased risk of HPAI infection due to aerosolization of contaminated material via dust generation or soiling of clothing with contaminated material.	♦Impermeable (pvc or nitrile) gloves ♦Goggles ♦NIOSH-approved particulate respirator, N-95 or better.[2] ♦Disposable gowns or coveralls or cleanable waders/raingear. ♦Rubber boots or boot covers	Same hygiene practices as in item 2. 1) If working indoors, work in well-ventilated areas. 2) When working outdoors, work upwind of animals, to the extent practical, to decrease the risk of inhaling airborne particulate matter such as dust, feathers, or dander. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. See torn or damaged gloves under activity 1. See work practices under activity 2 for proper procedure for removal of PPE.

5) Investigating, handling, and/or disposing of multiple sick or dead birds associated with a wild bird mortality event.	Definitive diagnosis of HPAI , or presumptive diagnosis in association with bird mortality[4] within the flyway within previous 30 days	Increased risk of HPAI infection due to aerosolization of contaminated material via dust generation or soiling of clothing with contaminated material.	♦Impermeable (pvc or nitrile) gloves ♦Goggles ♦NIOSH-approved particulate respirator, N-95 or better.[2] ♦Disposable gowns or coveralls or cleanable waders/raingear. ♦Rubber boots or boot covers	Same hygiene practices as in item 2. Use dust suppression techniques. Use work practices to minimize direct contact with birds and secretions, feathers and dander. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. See torn or damaged gloves under activity 1. See work practices under activity 2 for proper procedure for removal of PPE. Note: If oils are used for dust suppression, use NIOSH-approved respirators that are rated for use with oils, R-95 (somewhat oil resistant) or P-95 (strongly oil resistant) respirators.
6) Small scale cleaning and disinfecting, through wipedown of equipment known or suspected to be contaminated with avian influenza virus when aerosolizing particles is unlikely.	Definitive diagnosis of HPAI, or presumptive diagnosis in association with bird mortality[4] within 6.2 miles[1] of the work site.	Low risk of HPAI infection via inhalation, because aerosolization of contaminated particles or soiling of clothing from contact with contaminated material is unlikely.	♦Impermeable (pvc or nitrile) gloves ♦Goggles	Surfaces of equipment and reusable PPE should be cleaned with detergent and water and then disinfected using an antimicrobial pesticide registed by EPA and bearing a claim to inactivate avian influenza A (see www.epa.gov/pesticides/factsheets/avian.htm for list of registered products). All safety precaution and use directions on the pesticide label must be followed. If registered product is not available, then use:6 oz. (3/4 cup) of household bleach (5.25-6.00% sodium hypochlorite) per gallon of water for hard, non-porous surfaces. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. See torn or damaged gloves under activity 1. Remove eye protection after hands have been washed and place in designated receptacle for subsequent cleaning and disinfection. Clean hands with soap and water a second time (or an alcohol-based hand gel when soap and water are not available) immediately after PPE is removed.
Activity	**Conditions**	**Activity Risk**	**PPE**	**Work Practice**

7) Large scale decon or cleaning operations involving dusty conditions or risk of aerosolizing contaminants.	Definitive diagnosis of HPAI , or presumptive diagnosis in association with bird mortality[4] within 6.2[1] miles of the work area	Increased risk of HPAI infection due to aerosolization of contaminated material or soiling of clothing with contaminated material.	♦Impermeable (pvc or nitrile) gloves ♦Goggles ♦NIOSH approved particulate respirator, N-95 or better.[2] ♦Disposable gowns or coveralls or cleanable waders/raingear. ♦Rubber boots or disposable boot covers	Avoid generating mists with water sprayers during equipment decon procedures (i.e., hosing out the bed of a contaminated truck, hosing off contaminated equipment, etc.) Use general cleaning procedures listed above. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. See torn or damaged gloves under activity 1. See work practices under activity 2 for proper procedure for removal of PPE.
8) Wildlife inspectors (Port of Entry)	Handling import shipments of wild birds (i.e. port of entry operations) Presence of avian influenza - unknown.	Possibility of dust generation and direct contact with bird secretions, feathers and dander.	♦Impermeable (pvc or nitrile) gloves ♦Goggles ♦NIOSH approved particulate respirator, N-95 or better.[2] ♦Disposable gowns or coveralls or cleanable waders/raingear. ♦Shoe covers	Follow established practices including decon procedures as described in wildlife inspector training manual. Do not touch any part of exposed person (especially the face) with gloved hands. Other PPE may be necessary depending on specific conditions of the worksite or the tasks. For instance, aprons, face shields or other protection to prevent contact with contaminated material may be useful and more easily cleaned and disinfected. See torn or damaged gloves under activity 1. See work practices under activity 2 for proper procedure for removal of PPE.
9) High exposure tasks (not otherwise identified above)	Definitive diagnosis of HPAI, or presumptive diagnosis in association with bird	Increased risk of HPAI infection due to aerosolization of contaminated material or soiling of clothing with contaminated	Consultation with safety and health professionals.[2]	Consultation with safety and health professionals.

	mortality[4] within 6.2[1] miles of the work area	material.		

[1] A 6.2 mile (10km) radius area surrounding any site where the HPAI virus has been definitively diagnosed, or is suspected in association with a wild bird morality event, will be considered an "infected zone," within which the risk of HPAI infection is considered to be elevated. The boundary of this "infected zone" may be expanded outward as ecological, epidemiological, or administrative circumstances warrant. This "infected zone" will remain in effect for at least 30 days after the date of the last detection of HPAI in wild birds within the zone.

[2] Use of respirators including N-95 filtering facepiece respirators requires implementing a Respiratory Protection Program as required by OSHA. This includes training, fit-testing, and fit-checking to ensure appropriate respirator selection and use. To be effective, respirators must provide a proper sealing surface on the wearer's face. Detailed information on respiratory protection programs is provided at: www.osha.gov/SLTC/etools/respiratory/index.html and www.cdc.gov/niosh/topics/respirators/. Under certain high risk conditions such as handling large numbers of birds in a confined area confirmed to have the HPAI virus, it may be necessary to upgrade respiratory protection to powered air purifying respirators (PAPR) or other protection options.

[3] NIOSH-approved particulate respirators are required when investigating or responding to a wild bird mortality event of unknown origin, of known origin that poses a human respiratory health risk, or whenever conducting field necropsies. However, respiratory protection is not required for biologists handling sick or dead birds in association with a disease outbreak of known origin and no elevated human respiratory health risk.

[4] Refers to situations where the National Veterinary Services Laboratory has made a definitive diagnosis of HPAI in a wild bird or a presumptive diagnosis of an avian influenza virus from a wild bird found dead or moribund.

Strict adherence to hygiene and sanitation practices is required for all operations.

- Do not eat, drink, smoke, or engage in any other activity (such as handling equipment, using cell phones, etc.) which puts your hands in or near your eyes, nose, or mouth while handling animals until you can wash your hands.

- Avoid unnecessary contact with animals or animal tissue.

- Educate employees about the importance of hand washing in controlling disease transmission. Hands should be washed after contact with contaminated surfaces, removing gloves, sneezing, using the bathroom, handling garbage, contact with wildlife or soils, and other similar activities, and before preparing or eating food, smoking, drinking, applying cosmetics, lip balm, or lotions.

  Proper hand washing:

  1. First wet your hands and apply liquid or clean bar soap. Place the bar soap on a rack and allow it to drain.
  2. Next rub your hands vigorously together and scrub all surfaces
  3. Continue for 30 seconds. It is the soap combined with the scrubbing action that helps dislodge and remove germs.
  4. Rinse well and dry your hands.
  5. Alcohol-based sanitizing hand rubs or sanitizing cloths may be used as a temporary solution when hand-washing facilities are not available. Portable field hand-washing facilities are easily rigged and transported.

Medical Monitoring

For those employees involved in the wild bird surveillance project who are in direct contact with live or dead wild birds or with materials contaminated with their secretions regardless of the presence or absence of HPAI:

- Medical consultations should be available via telephone/sat phone for remote operations.
- Instruct workers to be vigilant for the development of fever, respiratory symptoms, and/or conjunctivitis (i.e., eye infections) for 1 week after last exposure to avian influenza-infected or exposed birds or to potentially avian influenza-contaminated environmental surfaces.

- Individuals who become ill with symptoms mentioned above should promptly seek medical care and prior to arrival notify their health care provider that they have been working on the wild bird HPAI surveillance project. In addition, employees should notify their health and safety representative. They should limit contact with others if at all possible. People who have been in close contact with the symptomatic employee should be informed.

- With the exception of visiting a health care provider, individuals who become ill should be advised to stay home until 24 hours after resolution of fever, unless an alternative diagnosis is established or diagnostic test results indicate the patient is not infected with avian influenza virus. While at home, ill persons should practice good cough and hand hygiene to lower the risk of transmission of virus to others. For information on techniques to stop the spread of germs through cough and hand contact and to obtain multilingual printable versions of infection control flyers and posters visit CDC's "Cove your Cough" website.